

B-24 *Liberator* RESTORATION

Restoring a Legendary Long Range Heavy Bomber

A72-176



The B-24 Liberator is an American heavy bomber designed and built by the Consolidated Aircraft Corporation of San Diego, California. The prototype flew on 29 December 1939 and the aircraft went into production the following year.



B-24M in service with the RAAF

The design was simple and the aircraft was very fuel efficient. The twin fin and rudder assembly provided the stability required for accurate bombing. Various models were produced from the B-24A in 1941 to the B-24M in 1945. A total of 18 842 aircraft were built by Consolidated and other manufacturers.

Operational History

The B-24 became the standard American heavy bomber in the Pacific because of its long range. They were also used by other Allied air forces: 2100 by the British (where they were known as the Liberator), 1200 by the Canadians, and 287 by the Royal Australian Air Force.

By the end of the Second World War in August 1945, seven RAAF squadrons were carrying out long range bombing operations with B-24s from bases in Western Australia, the Northern Territory, the Netherlands East Indies, and the Philippines.

Most Australian B-24 crews were trained at the RAAF No 7 Operational Training Unit at Tocumwal, NSW. This was a very significant unit covering an enormous area with 50 aircraft and 5000 personnel at its peak in 1945.

Unique Engineering Features

The B-24 was a notable advance in aviation engineering, being the first practical application of the Davis wing. This gave greater performance from a lighter structure. The wing is actually one piece with the body (fuselage) attached to it. The B-24 also pioneered the tricycle undercarriage which has now become common on large four-engined aircraft.



San Diego Air and Space Museum Archive

Davis High-lift Aerofoil

Freelance Aeronautical Engineer David Davis (1894-1972) designed a thick wing profile with low drag and high lift which was adopted in the B-24 – the design was abandoned in later years because it was unsuitable for higher speed aircraft.



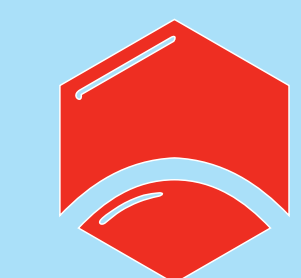
Conventional Flap

Fowler Flaps

Designed by Harlan Fowler in 1924, this flap slides back as well as rotating – combined with the Davis wing, it provided high lift for take-off and low stall speed for safe landing.



Recovering the fuselage from Moe, Victoria



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